

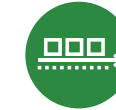


APPLICATIONS:



PACKAGINGS

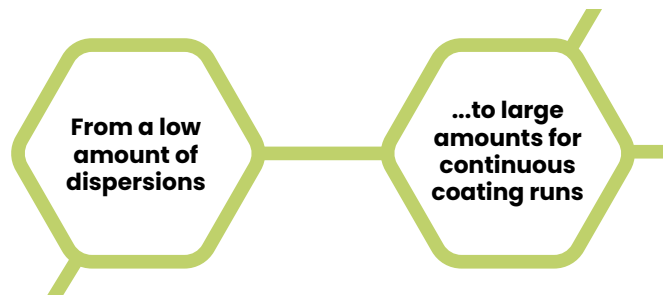
DEVELOPMENT:



PROCESSING

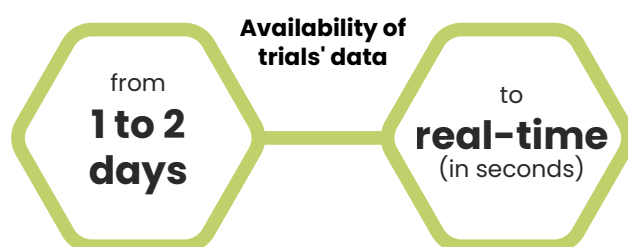
CURRENT-STATUS

SutCo (Surface treatment Concept) is a versatile pilot-scale coating and film preparation line with several coating units (e.g. rod, cast, slot and spray). Various bio-based dispersions and polymers have been applied with a rod coating applicator on fibre-based substrates. Thin stand-alone films can be prepared on plastic substrate. On-line measurement of coating amounts has been studied in laboratory scale and tested also on SutCo pilot. The pilot facility offers possibilities to perform trials at low speed for special applications with small material demands. Longer runs with continuous feeding with existing special pumps are also possible for producing more material for testing end-product performance.



CHALLENGE

Behavior of novel materials varies considerably
Utilization and sharing of data is not yet optimal



FURTHER DEVELOPMENT

PLAX formulation development and dispersion coating on fibre-based webs

A mixing tank with vacuum (air removal) and heating (for hot dispersion) with over-pressure assisted feeding for longer coating runs. Installation of a chill roll to avoid PLAX sticking issues. Data management system to save machine variables during trials



BENEFITS FOR COMPANIES AND SME'S

Upgraded surface treatment pilot line enables fast development of end-products for SMEs, while ensuring a high flexibility to adapt to their needs. SMEs can enter the market 25% faster with optimized products. The industrial productivity will be improved by 20% with thin coating layers and lower environmental impact due to recyclable and reusable materials.

Recyclability of bio-based materials and reduced amounts needed will lead to 30% improvement of the life-cycle costs in circular economy. Companies and SMEs can acquire a unique position on the market with the first 100% bio-based solutions.

APPLICATION EXAMPLES

STAND-UP POUCHES FOR FOOD

PLA dispersions will be coated with VTT-SutCo pilot with a best suitable coating method on pre-coated substrates, dried and cooled with chilled rolls before winding. Lacquer will be applied via existing dispersion coating methods on the PLA coated substrates at VTT-SutCo. Product performance will be evaluated with heat-sealability tests, water vapour and oxygen transmission and grease penetration tests.

The packaging pouches will have better durability meaning longer shelf life and less food losses in stores.